UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte NICHOLAS J. LEE

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Appeal 2009-011095
Application 09/650,173
Technology 2600

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Before MAHSHID D. SAADAT, DEBRA K. STEPHENS,
and JASON V. MORGAN, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a final rejection of claims 1-55, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

STATEMENT OF THE CASE

Introduction

Appellant's claimed invention relates to a voice interface and method for improving voice recognition reliability when a user conducts a voice-based search of a large database (Spec. 1:29-30). Independent claims 1 and 43 are illustrative of the invention and read as follows:

> 1.   A method for improving voice recognition accuracy when a user submits a search query by voice to search a domain of items, the method comprising:
>
> prompting a user to submit a set of characters of a voice query for searching the domain of items, and receiving the set of characters from the user, wherein the voice query is an utterance by the user of a search query, and the set of characters defines a portion of the search query;
>
> in response to receiving the set of characters from the user, identifying a subset of items in the domain that correspond to the set of characters;
>
> generating a dynamic grammar based at least in part on the subset of items, said grammar specifying valid utterances for interpreting the voice query;
>
> prompting the user to submit the voice query, and receiving the voice query from the user; and
>
> interpreting the voice query using the dynamic grammar.
>
> 43.   A method for facilitating database searches conducted over a telephone, the method comprising:
>
> prompting a user to depress a sequence of telephone keypad keys corresponding to a sequence of characters of a query term of a search query, and identifying a resulting sequence of keys depressed by the user;

> prompting the user to utter the search query by voice, and
> receiving a resulting voice utterance from the user; and

> interpreting the voice utterance using a voice recognition
> grammar that corresponds to the sequence of keys depressed by
> the user, said voice recognition grammar specifying valid
> utterances.

Rejections

The Examiner rejected claims 1-55 under 35 U.S.C. § 103(a) based upon the teachings of Loghmani (US 6,377,927 B1), Brotman (US 5,917,889), and Weber (US 6,434,524 B1). [1]

ANALYSIS

Claim 1

The Examiner relied on Loghmani for disclosing all the elements of claim 1 except for the step of prompting the user to submit a set of characters with respect to the original input, for which the Examiner relied on Brotman (Ans. 4-5). The Examiner further found that the combination of Loghmani and Brotman does not teach the step of updating the dynamic grammar to reflect valid utterances and added Weber to the combination for this feature (Ans. 5-6). The Examiner reasoned that because prompting the user reduces the domain field of choice and updating the dynamic grammar improves accuracy, one of ordinary skill in the art would have found it obvious to modify the speech recognition of Loghmani with the prompting feature and the updated dynamic grammar of Brotman and Weber (Ans. 5-6).

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[1] The detailed statement of the rejection is repeated on pages 4-11 of the Examiner's Answer, mailed Oct. 9, 2008.

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Appellant contends that the character entry disclosed in Brotman requires the user to both utter and select the corresponding telephone keys for all of the characters (App. Br. 11; Reply Br. 3). Appellant concludes that such requirement does not include prompting the user to submit a set of characters that define a portion of a search query (*id.*).

We agree with Appellant's contentions above. Contrary to the Examiner's assertion (Ans. 13-14), the user in Brotman is prompted to utter the numbers of the telephone key sequence that was previously entered by depressing the telephone keys (*see* col. 4, ll. 29-41). Similarly, Brotman discusses entering an alphanumeric identifier by depressing the telephone keys which is followed by uttering the entire set (col. 6, ll. 26-32). Both methods require entering the set of characters using the telephone keys and uttering all the individual characters of the same set instead of entering characters defining a portion of the voice query and then uttering the query.

Independent claims 15, 24, 33, and 50 recite similar limitations or features requiring the user to utter the query or additional query terms that are different from the entered sequence of characters of a query, which we found to be absent from the combination proposed by the Examiner. Accordingly, we do not sustain the 35 U.S.C. § 103(a) rejection of claims 1, 15, 24, 33, and 50, and of claims 2-14, 16-23, 25-32, 34-42, and 51-55 dependent therefrom.

Claim 43

Claim 43 recites "prompting the user to utter the search query by voice" and "interpreting the voice utterance using a voice recognition grammar." Appellant contends that the voice recognition grammar in Brotman only interprets utterances of individual characters, and not an

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utterance of a search query (App. Br. 20). The Examiner relies on column 7, lines 12-16 of Brotman and asserts that the voice recognition grammar of Brotman interprets the utterance of the query (Ans. 16).

Based on our review of Brotman discussed above, we find that the Examiner, giving the claim its broadest reasonable interpretation consistent with the Specification, *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997), properly finds the user utterance of the alphanumeric characters "AD345M" in Brotman meets the claimed utterance of the search query. We also find that "prompting the user to utter the search query by voice" in claim 43 does not require that the uttered query be necessarily different from the entered characters of the search query. As discussed above, Brotman prompts the user to enter the characters of the search query and also to speak the characters (col. 6, ll. 26-32) which is used by the voice recognition grammar for identifying valid utterances and determining the matching characters (col. 7, ll. 12-17).

Therefore, we conclude that the portions of Brotman the Examiner relied on adequately disclose the disputed features of claim 43. Accordingly, we sustain the 35 U.S.C. § 103(a) rejection of claim 43, and of claims 44-49 dependent therefrom and argued based on the same reasons presented for their base claim (App. Br. 20).

DECISION

The Examiner's decision rejecting claims 43-49 is affirmed, but reversed with respect to claims 1-42 and 50-55.

AFFIRMED-IN-PART

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